26 September 1968

MEMORANDUM FOR: [redacted] 25X1A

SUBJECT: Notes on the MC&G Working Group Meeting of 24 September 1968

1. Discussion of the first item on the agenda revolved around the document entitled "DoD Position on NRO Proposal of 6 August 1968 for Meeting Worldwide Positioning Requirement". [redacted] stressed the point made in the first paragraph of this document that the technical experts of the military services do not agree with General Berg's statement in his letter to you of 27 June 1968 that "the current CORONA systems utilizing the short arc technique and carrying a [redacted] probably at best marginally meet [redacted] They also do not agree with the statement in the enclosure to A-MCGWG-37, 12 August 1968, [redacted] regarding the essentiality of the SGLS as an element needed for improving the worldwide geodetic accuracies. These technicians feel that, by using the Transit Beacon with the KH-4B and the DISIC, the horizontal accuracy requirement (450', 90% assurance) can be exceeded, but there are misgivings about meeting the 300' vertical accuracy requirement. Navy's success with analyses of Doppler observations contributed to the optimistic view of the military technicians. [redacted] requested that a sub-working group be established immediately, to be chaired by [redacted] DIAMC, for the purpose of discussing the problem in detail within the next two weeks with NRO representatives in the hope of arriving at a common understanding of potentials. CIA and NPIC were asked to send representatives. The sub-working group will restrict its work to the KH-4B system, and not examine the potentials of the [redacted] The study will

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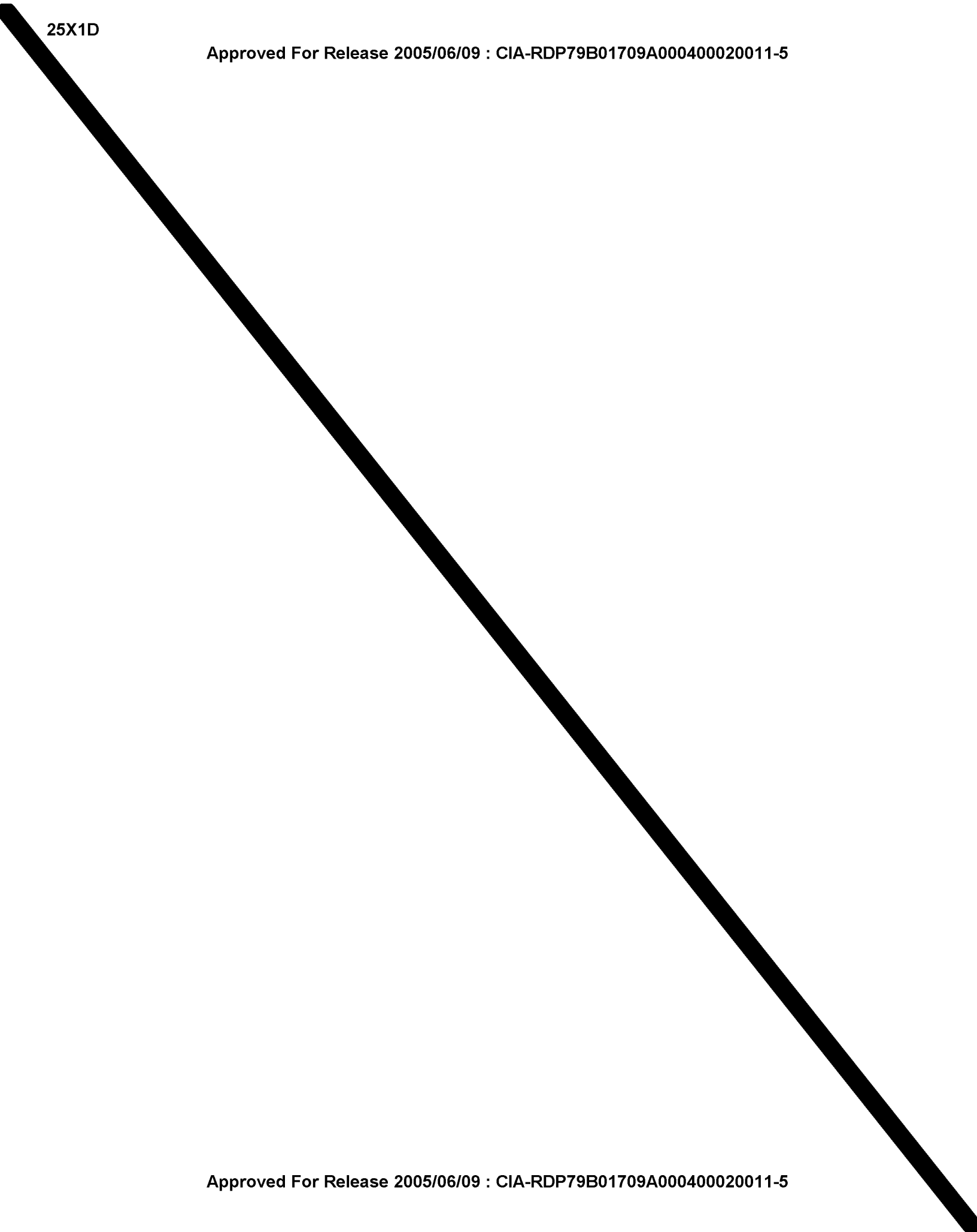
25X1A consider costs and the time element. [redacted] wanted to make it clear that the geodetic positioning job will not be finished during the time period of KH-4B missions, and use of on-coming systems will be required. However, the best possible positioning is needed as soon as possible during the 1969-1971 period. For this reason, and with all concurring, the words in the third paragraph "if not completed by KH-4B transit program" will be changed. At a later date, a sub-working group will attack the problems associated with on-coming systems. The DoD document will be edited and circulated within the MC&G community for concurrence, but no paper will go forward to COMIREX until the findings of the sub-working group are examined.

25X1A 2. [redacted] are still unhappy that the 450'/300' accuracy requirements are not recognized by all as USIB-approved, but no action is anticipated. There was a short discussion of possible future requirements for even more precise
25X1A accuracies to meet the [redacted] needs.

25X1D [redacted]



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5. The next item on "Evaluation Criteria for Panoramic Photography" states criteria that have evolved over time and are now currently in use. It is a de facto Army paper, concurred in by the other services. An exercise is currently underway, involving [redacted] 25X1A
[redacted] of OSP, which may result in some revision of 25X1A
these criteria, particularly regarding minimum area coverage. (The reference to two 1/250,000 map sheets was merely illustrative; the thought is the need for carrying geometric control from one sheet area through the entire area of an adjacent sheet in order to be able to continue this bridging of control into a third sheet area.) Apparently the evaluation criteria, when and if revised, will not necessarily go to COMIREX unless requested.

6. NRO 8077, 5 September 1968, states that DISICs will be deleted from missions 1105, 1109, and 1113. Launch dates, with possible shifts to launch times between October and February, were noted with no apparent objection. There was some discussion of your memorandum of 24 June 1968, to the Acting Chairman, subject "Need for DISICs on CORONA Missions" [redacted] 25X1A There was no clear statement regarding the intended response. The above acceptance of NRO 8077 seems to answer your questions 2 a-c. The discussion in my paragraph one implies that the paper to be forwarded after the sub-working group study will answer your question 2d.

7. With respect to the use of UTB in the DISIC, DIAMC has concluded that there should first be an analysis of some test material (exposed in-flight UTB film) before a recommendation can be made. [redacted] stated that [redacted] of ACIC 25X1A 25X1
and [redacted] both experts on the subject, had concurred. 25X1A

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DEFENSE INTELLIGENCE AGENCY
WASHINGTON, D. C. 20301

A-MCGWG-38

18 September 1968

SUBJECT: Documentation Relating to COMIREX MCGWG Meeting, 24 September

TO: COMIREX MCGWG

Reference A-MCGWG-38, 17 September 1968, the attached documentation identified as below is forwarded for your consideration.

a. DoD Position on NRO Proposal of 6 August 1968 for Meeting Worldwide Positioning Requirement (see paragraph 1.a.).

[redacted] 25X1A

25X1A [redacted]

d. AMS memorandum of understanding, subject: Evaluation Criteria for Panoramic Photography, dated 15 August 1968 (see paragraph 1.d.).

e. NRO message 8077, 5 September 1968, setting forth revised launch schedule for KH-4B missions (see paragraph 3.).

[redacted] 25X1A

COLONEL, USA
CHAIRMAN
COMIREX MC&G WORKING GROUP

5 Enclosures a/s

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18 September 1968

DOD POSITION ON NRO PROPOSAL OF 6 AUGUST 1968
FOR MEETING WORLDWIDE POSITIONING REQUIREMENT

1. Analysis by the MC&G utilization community indicates that adding the TRANSIT Beacon to the KH-4B system with the DISIC will enable exceeding the 450 ft. 90% assurance horizontal accuracy requirement, and that the SGLS will not be significant in reaching this objective. This technical capability information came from Navy analyses brought out in a 5 September 1968 conference and other analyses made subsequent to the receipt of the NRO proposals. Technical discussions and evaluations should be undertaken immediately with NRO to arrive at a common understanding of what accuracies may be achieved at what costs and in what time period.

2. More information is needed on [redacted] in order to evaluate its potential in contributing to the addition of the TRANSIT Beacon and possibly other components to the KH-4B [redacted]

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3. New Search system including the 12" SI, with the addition of the TRANSIT Beacon and other appropriate components, is evaluated to surpass the 450 ft. accuracy requirement. This system will be essential in meeting the 450 ft. requirement if not completed by KH-4B-TRANSIT program. Regardless of steps taken to improve positioning by KH-4B and Doppler, action should be taken now to preserve the option for modifications to the New Search system. However, more information on the New Search system's drag profile is needed to ascertain that orbit interrupts may not impede position determinations to any major extent.

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4. Another examination of both current and projected accuracy requirements and target positioning programs is being made. It is expected that this examination together with the further analysis involving the KH-4B system and the TRANSIT Beacon (see paragraph 1) will form the basis for stating a requirement for the KH-4B and TRANSIT Beacon in advance of the more long range NRO proposals to provide results in two to four years.

5. Actions involving the placement of the TRANSIT Beacon on the KH-4B

25X1 [redacted] should not impact to the detriment of the design and development of the 12" SI and vice versa. Information is needed from NRO as to any such impact.

[redacted]

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ARMY MAP SERVICE [redacted]/dls/301

DEPARTMENT OF TECHNICAL SERVICES
PHOTOGRAPHIC SERVICES AND INFORMATION DIVISION
SPECIAL PRODUCTS BRANCH

13510 15 August 1968

MEMORANDUM OF UNDERSTANDING

SUBJECT: Evaluation Criteria for Panoramic Photography

1. This paper is prepared for the purpose of outlining the criteria, established by DIAMC, for accepting photography for MC&G purposes.

2. The following are the complete evaluation criteria used by the MC&G photo-evaluation group (AMS) in eliminating pan priority collection areas.

a. "A2" category photography for priority areas:

(1) Panoramic photography is 90-100% cloud-free.

(2) Stereo (fwd and aft) coverage with center of format overlap 1/10 of an inch or better.

(3) Vehicle attitude normal -- which is determined from the horizon cameras even displacement of the earth's image (port and starboard). (Minimum pitch 20°, roll 3°.)

(4) Minimum area of coverage should equal 10,000 square miles (two 1:250,000 map sheets) and 2/3's of a pan exposure clear, in average weather areas. In bad weather areas, lesser areas of coverage will be acceptable on an individual evaluation basis.

(5) Photography free of heavy snow, haze or camera malfunction. Medium film density. Sun angle does not fall below 12°.

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13510 15 August 1968
SUBJECT: Evaluation Criteria for Panoramic Photography

b. "A1" category photography for coverage of stereo compilation areas for which mapping projects are to be initiated within the next two years.

(1) Same requirements for pan as indicated in a(1) thru (5) above.

(2) Correlated 3" F/L framing and stellar camera coverage (KH4B).

(a) Frame acceptability criteria:

1 Stereo portion of frame photography only.

2 55-66% forward overlap.

3 Medium film density, no malfunctions.

4 Binary time matrix operated.

(b) Stellar acceptability criteria:

1 Minimum of one acceptable stellar field (20-30 stars evenly distributed) for each frame exposure.

2 Reseau grid visible throughout field.

3 Binary time matrix operated.

3. The collection of 3" F/L framing camera coverage of MC&G priority areas has the following criteria:

a. 90-100% cloud-free.

b. Three (3) consecutive exposures (one stereo model) with 55-66% forward overlap.

c. Photography free of heavy snow, haze or camera malfunction. Medium film density. Sun angle does not fall below 5°.



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15 August 1968

SUBJECT: Evaluation Criteria for Panoramic Photography

d. Vehicle attitude normal -- does not exceed 10° roll

e. Binary time matrix operated successfully.

f. Stellar camera operated in conjunction with frame camera.

(1) Minimum of one acceptable stellar field (20-30 stars evenly distributed) for each frame exposure.

(2) Reseau grid visible throughout field.

(3) Binary time matrix operated.

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[redacted]

Chief, PSGID, D/TS

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[redacted]

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CITE NRO 8077 DTG051334Z SEP 68

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REF MC&G WORKING GRP MINUTES OF 15 AUG 68.

CURRENT CORONA LAUNCH SCHEDULE (AS OF 19 AUG 68) PROVIDES FOR DELETION OF DISIC UNITS ON FOLLOWING THREE MSNS:

| | |
|---|---|
| 1105 | OCT 68 |
| 1109 | DEC 69 |
| 1113 | DEC 70 |

LAUNCH DATES FOR 1109 AND 1113 ARE TENTATIVE AND IT IS CONCEIVABLE THAT SWITCHING OF PAYLOADS COULD CAUSE THESE MSNS TO BE LAUNCHED AS EARLY AS OCT OR AS LATE AS FEB. SHOULD EVENTS CAUSE A CHANGE IN SCHEDULE, YOU WILL BE NOTIFIED OF THE CHANGE IN MSN NUMBER SO THAT YOU MAY PLAN ON A LATE FALL OR WINTER LAUNCH FOR ALL THREE MSNS FLOWN WITHOUT DISIC UNITS.

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